Nutrition for patients in hospital

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Summary
The hospital environment with its schedules, tests and procedures can adversely affect a patient's nutritional intake. Malnutrition has many negative repercussions not only for patients but also for the health service. Nurses have a key role in assessing patients' nutritional status and needs, providing a comfortable environment for eating and assistance at mealtimes.

Author
Patricia O'Regan is lecturer, School of Nursing and Midwifery, University College Cork, Ireland. Email: p.oregan@ucc.ie

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Malnutrition
Malnutrition encompasses any disorder of nutrition that can result from an unbalanced, insufficient, or excessive diet, or from impaired absorption, assimilation or use of foods (Anderson et al 1994). Several studies have reported the association between malnutrition and increased risks of morbidity and mortality. This results in increased length of hospital stays, care costs and use of healthcare resources (Braunschweig et al 2000, Edington et al 2000, Raja et al 2004). The DH (2007) has highlighted that six out of ten older people in hospital are at risk of deteriorating nutritional status or becoming malnourished.

A recent Cochrane systematic review of 35 studies consisting of 2,648 patients (Baldwin et al 2007) identified that illness-related malnutrition was reported in 10-55% of people in hospital. Dietary advice, encouraging the use of
energy and nutrient-rich foods rather than oral supplements, was suggested for managing illness-related malnutrition. The review also highlighted the lack of evidence for providing dietary advice in managing illness-related malnutrition.

Nursing education is an important issue in preventing malnutrition among hospital patients. This is especially pertinent to nurses who are at the forefront of patient care.

Nurses’ knowledge

Florence Nightingale emphasised the vital role of diet in recovery from illness (Nightingale 1859). The importance of nutrition in the hospital setting has been recognised since then. Yet malnutrition on admission to hospital is still prevalent in many patients in the Western world and has been shown to deteriorate further during hospitalisation (Kowanko 2001). Registered nurses are accountable for each patient’s nutritional care and resultant nutritional status regardless of how directly or indirectly they participate in care delivery (Grieve and Finnie 2002).

Nurses play a vital role in the nutritional care of patients, therefore it is essential that they possess the knowledge and skills to fulfil this role (Best and Thomas 2001). However, Hankey et al (2004) found that health professionals have only some knowledge of nutrition and weight management and can be unsure about how to deliver this advice. Nutrition and malnutrition are not always included in professional training curricula, hence the symptoms of malnutrition often go unrecognised by ward staff (Bond 1998). Cadman and Findlay (1998) found that practice nurses who had received training in nutrition were confident in giving accurate and consistent advice to patients. It is vital that nurses receive adequate training to give appropriate information to patients and undertake further training throughout their careers to keep up to date.

Cultural considerations

One of the strongest influences on food preferences is tradition or cultural background (Insel et al 2004). When unwell and in the strange surroundings of a hospital, people like to eat food to which they are accustomed. Every attempt should be made to provide patients with food that is familiar and does not offend their beliefs, as well as being nutritionally adequate (Barker 2002). It is important that nurses have knowledge of cultural diversity and consider different nutritional practices.

The majority of hospitals have access to outside catering services that specialise in different ethnic cuisines, such as African-Caribbean, halal and kosher foods. Knowledge and management of such services by nurse managers will enhance the patient’s quality of life. Vegetarians should also be given a varied selection of meals (DH 1996). They should be offered a nutritionally balanced meal, including vegetable protein. This could include beans, lentils, pulses and soy foods, which are all rich in protein.

Pharmacological considerations

Foods and nutrients can both enhance or interfere with the effects of drugs. Drug-nutrient interaction is the result of a physical, psychological and/or physiological relationship between a drug and a food that is considered significant if the therapeutic response is altered adversely, or if the nutritional status is compromised (Boullata and Armenti 2004). Because many drugs can cause gastrointestinal problems it is generally recommended to take medications with a meal. However, drugs can also cause a dry mouth and interfere with appetite (Box 1). Horan and Coad (2000) recommended that drugs that have an adverse effect on nutritional intake should be reviewed with reference to timing and method of administration (Table 1). They also advocate the benefit of giving anti-emetics before medications and/or appetite stimulants where a patient has a reduced appetite because of their medication. Pharmacological interventions, such as corticosteroids, cannabinoids and progesterone, can also stimulate the appetite of some patients (Hill and Hart 2001). It should be noted that their effect is not universal and they have related side effects, such as calcium and potassium...
Nutritional screening

Nutritional screening provides healthcare teams with the information necessary to plan patients’ nutrition care and teaching (Urden et al 2001). The National Institute for Health and Clinical Excellence (NICE 2006) guideline on nutritional care of adults in hospital recommends that all patients should be screened on admission. It advocates routinely screening all hospital inpatients on admission and all outpatients at their first clinic appointment. NICE (2006) also proposes that screening should be repeated weekly for all inpatients and for outpatients where there are clinical concerns.

The aim of nutritional screening is to identify patients who are malnourished and to determine which patients are at risk of developing malnutrition (Royal College of Physicians (RCP) 2002). It is recommended that the Malnutrition Universal Screening Tool (MUST) (British Association for Parenteral and Enteral Nutrition 2003) is used. This is a five-step screening tool to identify adults who are malnourished, at risk of malnutrition or clinically obese. It also includes management guidelines, which can be used to develop a care plan.

NURSING STANDARD

Nurses are in a key position to screen patients for nutritional problems through an initial history and clinical examination. Where possible, patients and their families should be included in the screening process as they can offer insight into particular eating patterns and food preferences.

Weight change is the first and key aspect of screening. Weighing a patient on a regular basis can reveal signs of a new disease developing, or the deterioration in an existing condition. Body

| TABLE 1
| Nutritional effects of selected drugs

<table>
<thead>
<tr>
<th>Key: ↓ indicates a reduction</th>
<th>↑ indicates an increase</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anti-inflammatory agents</strong></td>
<td><strong>Nutritional effects</strong></td>
</tr>
<tr>
<td>Aspirin</td>
<td>↑ Urinary loss of vitamin C, iron (Fe) deficiency</td>
</tr>
<tr>
<td>Colchicine</td>
<td>↓ Absorption of vitamin B12, Fe deficiency</td>
</tr>
<tr>
<td>Indomethacin</td>
<td>↑ Urinary loss of vitamin C, Fe deficiency</td>
</tr>
<tr>
<td>All</td>
<td>Hyperglycaemia, ↑ excretion of potassium (K+)</td>
</tr>
</tbody>
</table>

| **Cardiac drugs**          | Diarrhoea, malabsorption of all nutrients |
| Diuretics                  | ↓ Absorption of copper (Cu), zinc (Zn), Fe |
| All                        | |
| Furosemide                 | ↓ Glucose tolerance, hyperglycæmia, ↑ loss of urinary Ca |
| Thiazides                  | ↓ Glucose tolerance, hyperglycæmia, hypokalaemia |

| **H2 receptor antagonists** | Fe and Ca absorption caused by ↑ Gastric pH |
| Hypocholesterolems         | ↓ Absorption of fat, carotene, vitamin A, E, D, K, B12, and Fe |
| Laxatives                  | ↓ Faecal loss of Ca and K+ |
| Cathartics (senna)         | ↑ Requirements for vitamin B6 |
| Levodopa                   | Potential for ↓ absorption of vitamin A, D, E, K, and Ca |

| **Opiates**                | Serum vitamin C |
| Heroin                     | ↓ Glucose tolerance, ↓ K+ |

| **Oral contraceptive agents** | Fe absorption caused by ↑ gastric pH |
| Atropine                    | |

(Adapted from Moore 2005)
mass index (BMI) is a useful indicator if a patient is at risk of malnutrition as well as obesity. It is a core aspect of the MUST tool recommended by NICE (2006). BMI correlates relatively well with body fat and health risks in the majority of the adult population (Insel et al 2004).

Dieticians play an important role in nutritional screening and patient management. Their role is to interpret and translate the science of nutrition into practical ways of promoting nutritional wellbeing, disease treatment and the prevention of nutrition-related problems (Smith 2004). Their advice and guidance can enhance nursing care in relation to nutritional support. Likewise, nurses can complement the dietician’s role through frequent communication and collaboration regarding the patient’s nutritional status.

Excess weight, often measured as increased BMI, has long been considered a risk factor for many chronic diseases. According to Folsom et al (2000), BMI and abdominal adiposity increase the risk of cardiovascular disease in people free of these diseases. Visceral or abdominal obesity, as reflected anthropometrically by an increased waist circumference or waist-to-hip ratio, has also emerged as an important predictor of risk of obesity-related diseases. Increased abdominal adiposity, such as waist-to-hip ratio and waist circumference, predict coronary heart disease and strokes better than BMI (Folsom et al 2000, Lakka et al 2002).

Ward environment

To promote optimum nutritional intake, nurses need to examine the ward environment and ensure that it is suitable to enhance comfortable eating. Wards can be hot and dry, noisy and have nasty aromas, none of which are conducive to eating. Psychological factors can also influence nutritional intake; feelings of loneliness and isolation on entering a ward may result in a refusal to eat, as can feeling uncomfortable in the eating environment (Lloyd and Moody 1999).

The patient may also be anxious, nervous or agitated. By spending time with and assisting patients at mealtimes, nurses can assess and take measures to relieve such symptoms. Many elements of the established routine and hospital environment may contribute to failure to address patients’ nutritional requirements (Fulham 2004).

Activity during mealtimes

Mealtimes are often the favourite aspect of the day for patients, but they have not always been given due respect from hospital staff as medical rounds and routine nursing observations are often performed during meals (Holmes 1998, Audit Commission 2001). Specific tasks, such as dressings and drug rounds, should not be carried out at mealtimes. Noise and disruptions can also affect appetite. The RCP (2002) suggested that as mealtimes are often the highlight of a patient’s day, they should not be undermined by other ward routines. Nurses should endeavour to reduce the activity level on the ward including visitors, television or radio. Interruptions during mealtimes have been demonstrated to have a negative effect on the nutritional status of patients (Pennington 2001).

Following recognition of the need for patients to be able to take their meals in a calm and peaceful environment, the protected mealtimes scheme was launched as part of the Better Hospitals Food Programme (DH 2000). However, a report by the Healthcare Commission (2007) on local policies identified that protected mealtimes were not being implemented uniformly. It is important that healthcare managers adhere to guidance on protected mealtimes and that patients are not disturbed during these times except in extreme cases, such as an emergency.

Tests and examinations

Withholding meals before diagnostic tests can compound nutritional depletion and cause anxiety, fear and discomfort, which can further reduce food consumption (Holmes 1993). Studies suggest that a patient needs to fast for only four to six hours preoperatively, but this is rarely adhered to in practice (Edwards 1998). A meta-analysis of randomised clinical trials demonstrated the safety of drinking clear oral liquids up to two hours preoperatively in healthy patients undergoing elective surgery (Maltby 2006). Eastwood (1997) also highlighted how meals were frequently missed as a result of investigations and treatments. Patients were found to miss between 11% and 27% of hospital meals; around 8% were because patients were having hospital examinations, while more than 90% was attributed to the quality of the food or illness. Prolonged periods of fasting could significantly effect recovery rates as well as nutritional status.

Timing of meals

The Audit Commission (2001) reported that hospital mealtimes were inflexible, determined by the needs of nursing shifts and catering staff. There can be a gap of up to 14 hours between the evening meal and breakfast. The hospital breakfast is also rushed because of other morning activities, such as ward rounds and hygiene routines (Kowanko et al 1999). Hospitals should serve meals at the times of day that reflect the normal eating time of the majority of patients. Rush and Maloney’s (1998) research findings indicated that the lack of provision of food between early evening and breakfast was a common area of patient dissatisfaction. Holmes (1998) identified that nutritional intake significantly improved when
patients were given some control over the content and timing of meals.

**Food provision** Making food available during the day and night could greatly enhance the lives of hospital patients. According to Horan and Coad (2000), the most frequently missed meal of the day in hospitals is the midday meal. For many patients this can be the main source of calories and nutrition in the day. This has serious implications for patients’ nutritional status and wellbeing as they are at risk of missing essential nutrients. The Council of Europe Committee of Ministers (2003) recommended that food service and nutritional care is available to all patients 24 hours a day. This should involve providing additional meals, snack boxes and light bites. It also made important recommendations on issues related to food and nutritional care in hospitals. These recommendations should help staff to evaluate the adequacy of nutrition programmes in hospitals across Europe.

The Council of Europe Committee of Ministers (2003) report contains more than 100 recommendations for improvement, including: developing standards of practice for assessing and monitoring nutritional risk; the definition that disease-related undernutrition should be universally accepted and used as a clinical diagnosis, and hence treated as such; good practice to ensure the intake of ordinary food by patients should be documented; nutritional risk screening, assessment and monitoring should be included in the accreditation standards for hospitals and monitored by patient action teams; clinical nutrition should be included or improved in the education of physicians and nurses; and national guidelines and standards for food provision in hospitals should be established (Kondrup 2004). The DH (2007) action plan also states that accessible guidance and standards on nutrition should be available across all sectors.

**Assisting patients at mealtimes** It has been reported that nurses consider mealtimes as another task to be completed (Dewing 2003) and for this reason they might not receive adequate attention. Nutrition is frequently perceived as basic and not requiring intervention, so much so that it can be taken for granted, even to the point where nutritional neglect occurs (Lloyd and Moody 1999). Providing meals to hospital patients, previously a traditional nursing role, has been frequently delegated to ancillary personnel, such as kitchen staff (Kowanko et al 1999) and nowadays to healthcare assistants. It has been suggested that this role can free nurses from the ‘non-nursing’ duty of food service and provide them with more time for ‘higher priority activities’. However, feeding patients is not just a routine task, as it also provides an opportunity to observe and monitor physical and psychological aspects of a patient’s progress. Patients should be able to trust nurses with their health and wellbeing. Nurses as professionals are personally accountable for actions and omissions in their practice and should always be able to justify their decisions (Nursing and Midwifery Council 2008).

Nurses should focus on helping patients at mealtimes, rather than attending to other tasks. Simple tasks, such as ensuring that the patient is sitting upright in a comfortable position, that the tray is in easy reach, that food is hot, looks appetising and is what was ordered, can enhance the meal for many patients. Other issues, such as delivering the tray in a courteous manner, showing a positive attitude to the food and explaining the diet to the patient, are acts that can increase a patient’s satisfaction (Dudek 2006).

**Special needs** According to Sager et al (1996), during an acute illness, 20% of hospitalised older adults who lose any activities of daily living cannot feed themselves. Being positioned properly can help patients to manipulate, eat and swallow food more easily (Schenker 2003). Some patients can have difficulty feeding themselves because of physical disability; however it is important that the patient’s ability to feed him or herself is maintained as much as possible.

Inability to do so can affect patient morale and dignity. It can also be frustrating for the patient to be fed by someone else because it emphasises complete dependence (Stanner 2003). Some patients might require adapted feeding equipment and correct positioning to enable them to eat independently. A range of modified feeding utensils is available including plate guards, non-slip mats and drinking cups. Occupational therapists can give advice about the correct types. Nurses should provide assistance with opening, describing the meal and showing a positive attitude to the food and delivering the tray in a courteous manner, explaining the diet to the patient, are acts that can increase a patient’s satisfaction (Dudek 2006). The use of coloured trays to highlight those needing assistance with feeding or those at risk of malnutrition can be helpful. Bradley and Rees (2003) described the introduction of red trays in one clinical setting, which were used as a visible indicator of vulnerable patients who needed help and support from staff. This simple innovation enabled at-risk patients to be identified and supported with their meals.

**Food choice and presentation** The general appearance of a meal is important and can influence whether or not a person eats a meal, especially when he or she is unwell and has a reduced appetite. An individual’s needs, likes and dislikes maintain a sense of identity and should be catered for to allow patients to have some control over their lives (Stanner 2003). Lack of variety can have a negative effect on a patient’s nutritional intake. Repetition of meals can
become boring, mundane and can cause a decrease in oral intake.

The Nutrition Now campaign was launched by the Royal College of Nursing (2007) to provide nurses with the practical tools, support and evidence needed to make nutrition a priority. The campaign aimed to raise awareness of the importance of nutrition.

Criticism of the poor standard of food choice has a long history in many countries. Girling (2002) suggested that the problem of malnutrition in hospitals has been understood, but effectively ignored for many years. Garton (2001) also highlighted dissatisfaction with hospital food.

Patients have the right to receive good quality food. Patients should be given a clear choice and variety of meals. The majority of hospitals produce menus that enable patients to choose from a variety of foods and they should be helped in making their choice. Dishes should be described accurately so that patients have a reasonable idea of what to expect. Same day ordering can encourage patients to eat—they may be more enthusiastic about eating food they ordered on the same day rather than the day before. Their condition can change, which will also affect their food choice. Patients with learning disabilities or literacy problems will need assistance, care and supervision in choosing food.

Continuous holistic care enables the nurse to know their patients’ likes and dislikes. Menu co-ordinators, who carry out the role of distributing menus, helping patients with their choice and checking orders, are in post in some hospitals. They can be beneficial to patient care as well as enhancing nutritional intake, especially for patients who have difficulty choosing menus, such as those with stroke, sight deficit or fatigue.

**Implications for practice**

The consequences of malnutrition for the patient and the health service are vast. They include longer hospital stays, financial drain to the health service, higher rates of complications, impaired wound healing and susceptibility to infection (Dudek 2006). Consideration should be given to improving dietary intake through enhanced nursing practice (Xia and McCutcheon 2006). This should include providing assistance at mealtimes, a relaxed and comfortable environment, meal service arrangements and continuous documentation.

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**References**


Nurses need to assess patients and find a balance between providing sufficient assistance while encouraging patients to eat independently. Increasing staff numbers might not be enough to improve nursing practice at mealtimes. There needs to be a change in nurses’ attitudes and perceptions of the importance of nutrition (Xia and McCutcheon 2006).

Improved nutrition is likely to enable patients to experience a better quality of hospital stay (Bradley and Rees 2003). Practical ways to enhance the experience of nutrition and mealtimes for patients could include:

- Making the food attractive and appealing by providing a variety of flavours, textures and colours as well as a suitable temperature.
- Serving correct portion sizes to meet patients’ wishes. Large meals can be offputting to someone who is unwell.
- Serving food in clean tablewear that can be easily reached by patients.
- Assessing patient ability and assisting where necessary and/or providing adaptive equipment; assisting with meal ordering and providing same day menu orders.
- Ensuring that all patients are given food during mealtimes and that mealtimes are seen as a priority.
- Ensuring that patients are ready for their meal when it arrives, that they are positioned properly and that the ward environment is conducive to eating.
- Using brightly coloured trays to highlight those who need assistance with feeding.

Conclusion

Feeding and providing nutrition is not medical treatment, but a basic human need. It is a vital part of the care delivered to patients and should be considered integral to their treatment. Nutrition is a fundamental requirement and ensuring adequate nutritional intake is usually part of the nurse’s role. Nurses should be encouraged to value nutritional support as an important part of holistic care. This can be achieved by raising their awareness about the importance of nutrition and increasing their knowledge base through regular post-registration nutrition study days and education sessions NS.


Nightingale F (1859) Notes on Nursing: What it is and What it is Not. Hanson and Son, London.


